

REMARKS

The Applicant appreciates the comments made in the Office Action mailed July 8, 2008.

CFK is a term of art referring to a well known reinforced synthetic material. Please see U.S. Pat. No. 7,186,360, for example, for a description of the use of CFK, which is used in the claims of this issued patent to refer to this specific material. Thus, use of CFK in the claims is proper, because CFK is the name of a reinforced synthetic material known to a person having ordinary skill in the art.

Drawings

No amendment to the drawings is required. Instead, the specification is amended to correct formal matters, which correctly identifies item number 18 in the specification. The list of reference characters on page 29 of the specification correctly identifies reference character 18 as a rib insulation package, which is identified in Fig. 1. No new matter has been added by any of the amendments to the claims or the specification. All of the limitations in the claims are disclosed in the drawings and the specification.

Rejection under §112, second paragraph

An amended set of claims corrects formalities and antecedent basis issues raised in the Office Action.

Claim Objections

All of the claim objections are overcome by the amendments to the claims.

Claim 1 has been amended to claim a system, and new claims 21 – 30 now depend from claim 1, incorporating all of the limitations of claim 1 and additional limitations. Claim 1 is distinguished from the references cited in the Office Action, below; therefore, claims 1 and 21-30 are now in condition for allowance.

Claim 2 has been amended to be an independent claim, incorporating some of the limitations of claim 1 into claim 2. Claims 3-6, 8-12, 14-15 and 21-22 now depend from independent claim 2, incorporating all of the limitations of claim 2 and additional limitations. Claim 2 is distinguished, below, from the references cited in the Office Action; therefore, claims 2-6, 8-12, 14-15 and 21-22 are now in condition for allowance.

Claims 7, 13 and 16-20 are cancelled.

Rejection under § 102, for anticipation

None of the claims, as now amended, are anticipated by the references cited in the Office Action. In order to anticipate a claim, a single reference must disclose each and every limitation of the claims exactly. There are now two independent claims, claim 1 and claim 2, pending in the application. U.S. Pat. No. 6,358,591 ("Smith") fails to disclose each and every limitation of claims 1 and 2, exactly

As amended, claim 1 recites:

...a first flat insulation end section integrally extending outwardly from an first end of the fuselage insulation package and having a first length; a second flat insulation end section integrally extending outwardly from a second end of the fuselage insulation package opposite to the first end of the fuselage insulation package and having a second length shorter than the first length of the first flat insulation end section; and ...

a burn-through-proof attachment element ...wherein the first retainer end ... attaches both of the first flat insulation end section of one of the pair of fuselage insulation packages and the second flat insulation end section of the other of the pair of fuselage insulation packages to the rib attachment region of the rib ... such that a portion of each of the pair of fuselage insulation packages overlap, and ...the first flat insulation end section is retained on the opposite side of the rib attachment region by passing the second retainer end ... through a second hole formed in the respective one of the pair of fuselage insulation packages.

For this reason, claim 1 is not anticipated by any of the references cited in the Office Action.

Claim 2 recites "a burn-through-proof attachment element wherein each of the at least two fuselage insulation packages continue outward with a flat insulation end section on an end of the fuselage insulation package such that the at least two fuselage insulation packages are attached overlappingly with the burn-through-proof attachment element to one of the at least two ribs in the rib attachment region of the respective one of the at least two ribs...." None of the references cited in the Office Action disclose all of these limitations, exactly; therefore, claim 2 is not anticipated by the references cited in the Office Action.

Likewise, none of the claims depending from claims 1 and 2, which incorporate all of the limitations of the respective independent claims and additional limitations, are anticipated by any of the references cited in the Office Action.

Specifically, Figures 1-3 of Smith show the prior art, which is similar to the prior art described in the background of the Applicant's specification. Figures 4-9 of Smith illustrate examples that use a normal "cap strip" of the prior art according to the disclosure in Smith. Smith teaches that this configuration is preferred as resulting in substantially lower costs in retrofitting existing aircraft. See column 4, lines 41-67. This expressly teaches away from the limitations in the Applicant's claims, as originally presented and as currently amended.

Figure 10 of Smith shows a different solution, which uses a tape to join adjacent (but not overlapping) ends of field insulation. However, this embodiment still uses a separate piece of "lofting," as shown in Figure 10 and disclosed at column 10, lines 42-60, and still uses plastic attachment posts 26 and plastic washers 34. Thus, the attachment elements are not "burn-through-proof." Instead, Smith is clear that all of the attachment posts 26 and washers 34 are conventional plastic posts and washers. Smith teaches that the "plastic attachment posts will remain in place during a fuel fire for so long as the attached insulation blanket remains relatively intact, because the blanket tends to protect the attachment post from the heat of the fire." Thus, nothing in Smith even teaches or suggests a need for a "burn-through-proof" attachment element. For this reason, both claims 1 and 2 are nonobvious over Smith, which fails to teach or suggest all of the limitations of claims 1 and 2.

Indeed, Smith teaches away from anything that would make the attachment elements heavier. In Figure 11 of Smith, another embodiment uses a metal C-shaped spring clip;

however, spring clips "...are typically made of spring steel and ... are heavier than plastic attachment posts and therefore less preferred for weight-critical applications." All applications in aircraft are weight critical; therefore, Smith actually teaches away from using metal spring clips. Thus, an ordinary person of skill in the art would not adopt a heavier "burn-through-proof" design of an attachment element, because Smith teaches that a lighter plastic attachment post is preferred and will remain in place so long as the insulation blanket remains in place. For this reason, a person of ordinary skill in the art, familiar with the teachings of Smith, would not adopt a "burn-through-proof" attachment post, and independent claims 1 and 2, and all of the dependent claims, are nonobvious over Smith.

Rejections under §103, starting on page 12 of the Office Action

Steiner fails to teach or suggest any of the limitations of claims 1 and 2 omitted by Smith. For this reason, a combination of Smith and Steiner in the Office Action fails to establish *prima facie* obviousness over any of the pending claims.

The flush-mounted fastening device for boats of U.S. Pat. No. 6,000,107 ("West") fails to disclose an attachment element having all of the limitations of a "burn-through-proof attachment element" as claimed in amended claims 1 and 2, and there is no motivation to combine West and Smith, which latter reference teaches away from using a heavier material, such as steel, in a plastic attachment post. Thus, the combination of West and Smith fails to teach or suggest all of the limitations of claims 1 and 2, as amended.

As amended claim 1 recites: "...a burn-through-proof attachment element having a first retainer end at one end of the attachment element and a second retainer end at an opposite end of the attachment element, the attachment element being disposed through the through-hole of the rib attachment region such that the first retainer end is on one side of the rib attachment region and the second retainer end is on the opposite side of the rib attachment region...." West and Smith, taken alone or in combination, fail to teach or suggest all of the limitations of a burn-through-proof attachment element.

As amended, claim 2 recites: "...a burn-through-proof attachment element, wherein each of the at least two fuselage insulation packages continue outward with a flat insulation end section on an end of the fuselage insulation package such that the at least two fuselage

insulation packages are attached overlappingly with the burn-through-proof attachment element to one of the at least two ribs in the rib attachment region of the respective one of the at least two ribs....” Neither West nor Smith teach or suggest any overlapping attachment of two fuselage insulation packages, as recited in amended claim 2.

Furthermore, Smith expressly teaches away from any change to an attachment post that would use a metal core, which would increase the weight of the attachment post compared to a conventional plastic post. As discussed previously, Smith teaches that a conventional plastic post is preferred in weight sensitive applications like aviation because of its lighter weight, and expressly teaches that a conventional plastic post survives so long as the insulation blanket remains intact. Thus, no person of ordinary skill in the art has any reason to combine the teachings of Smith and West. Indeed, Smith teaches away from combining the teachings of West with the teachings of Smith.

Thus, claims 1 and 2 are nonobvious over Smith and West, and all of the pending claims depending from claims 1 and 2 are nonobvious over Smith and West.

Claim 4 includes a limitation to the insulation pin having “...an elongated cylindrical core element and a flange-like elevation formed at each end of the core element....” None of the cited references teach or suggest this limitation; therefore, claim 4 is nonobvious for this reason, in addition to the other reasons that claim 2, from which claim 4 ultimately depends, is nonobvious over the cited references.

Claim 6 includes a limitation to another flange, which “...extends outwardly in a radial direction from a middle portion of the insulation pin....” None of the cited references teach or suggest this limitation; therefore, claim 6 is nonobvious for this reason, in addition to the other reasons that claim 2, from which claim 6 ultimately depends, is nonobvious over the cited references.

Claim 10 includes limitations of a “second attachment element” that includes “burn-through-proof” insulation discs or ring elements. None of the cited references teach or suggest any of these additional limitations; therefore, claim 10 is nonobvious for this reason, in addition to the other reasons that claim 2, from which claim 10 depends, is nonobvious over the cited references.

Claims 11, 12, 14 and 15 depend from claim 10 including all of the limitations of claim 10 and additional limitation; therefore, these claims are likewise nonobvious over the cited references for the same reasons as claim 10 and for additional reasons, based on the additional limitations of these claims that are not taught or suggested by any of the cited references.

New claims 23-30 depend from claim 1 incorporating all of the limitations of claim 1 and additional limitations not taught or suggested by any of the references cited in the Office Action. Therefore, new claims 23-30 are nonobvious over the references cited in the Office Action. No new matter has been added by the addition of any of the new claims.

All of the pending claims are now in condition for allowance. Applicant respectfully requests that the application be allowed for issue.

Dated: October 8, 2008

Respectfully submitted,



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